JVC

SERVICE MANUAL

MODEL A-E5

STEREO INTEGRATED AMPLIFIER

No. 537
Oct. 1980

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Warning: When replacing the parts marked with ⚠ , be sure to use the designated parts to ensure safety.

1. Specifications

CIRCUITRY : "Super-A" power amplifier with cascode-connection and a boot-strap amp in its initial stage.

OVERALL CHARACTERISTICS

Output power (AUX IN → SP. OUT)
- 1 kHz : 31 Watts RMS per channel min. (8 ohms, 0.007 % measured by HP-IB Audio Analyze System)
- 20 Hz – 20 kHz : 30 Watts RMS per channel min. (both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.007 % total harmonic distortion.)

Total harmonic distortion
(AUX IN → SP. OUT) : 0.007 % (20 Hz – 20 kHz, 8 ohms) at Rated Output

Intermodulation distortion
(AUX IN → SP. OUT) : 0.007 % (60 Hz : 7 kHz = 4 : 1, 8 ohms) at Rated Output

Power band width
(AUX IN → SP. OUT) : 10 Hz – 40 kHz (IHF, 0.05 %, 8 ohms both channels driven)

Frequency characteristic : 10 Hz – 100 kHz +0.5, -3 dB (8 ohms)

Damping factor : 45 (1 kHz, 8 ohms)

Input terminals

Input sensitivity/impedance (1 kHz)
- PHONO : 2.5 mV/47 kohms
- TUNER/AUX/TAPE : 160 mV/47 kohms

Signal-to-noise ratio
- PHONO : 70 dB (IHF)
- TUNER/AUX/TAPE : 95 dB (IHF)

(IHF A Network short circuit)
- PHONO : 67 dB (New IHF)
- TUNER/AUX/TAPE : 75 dB (New IHF)

Tone controls : TREBLE: ±8 dB (10 kHz) BASS: ±8 dB (100 Hz)

Loudness control : 100 Hz: +6 dB (at VOLUME -30 dB)

EQUALIZER

PHONO overload capacity : 120 mV (1 kHz)

PHONO RIAA deviation : ±0.5 dB (20 Hz – 15 kHz)

GENERAL

Power source : See page 15

Dimensions and Weight :

Dimensions (cm)			Weight (kg/lbs)
Height	Width	Depth	
5.9 (2-3/8")	34.0 (13-7/16")	28.2 (11-1/8")	3.9/8.6

Design and specifications subject to change without notice.

2. Removal Procedures of Top Cover

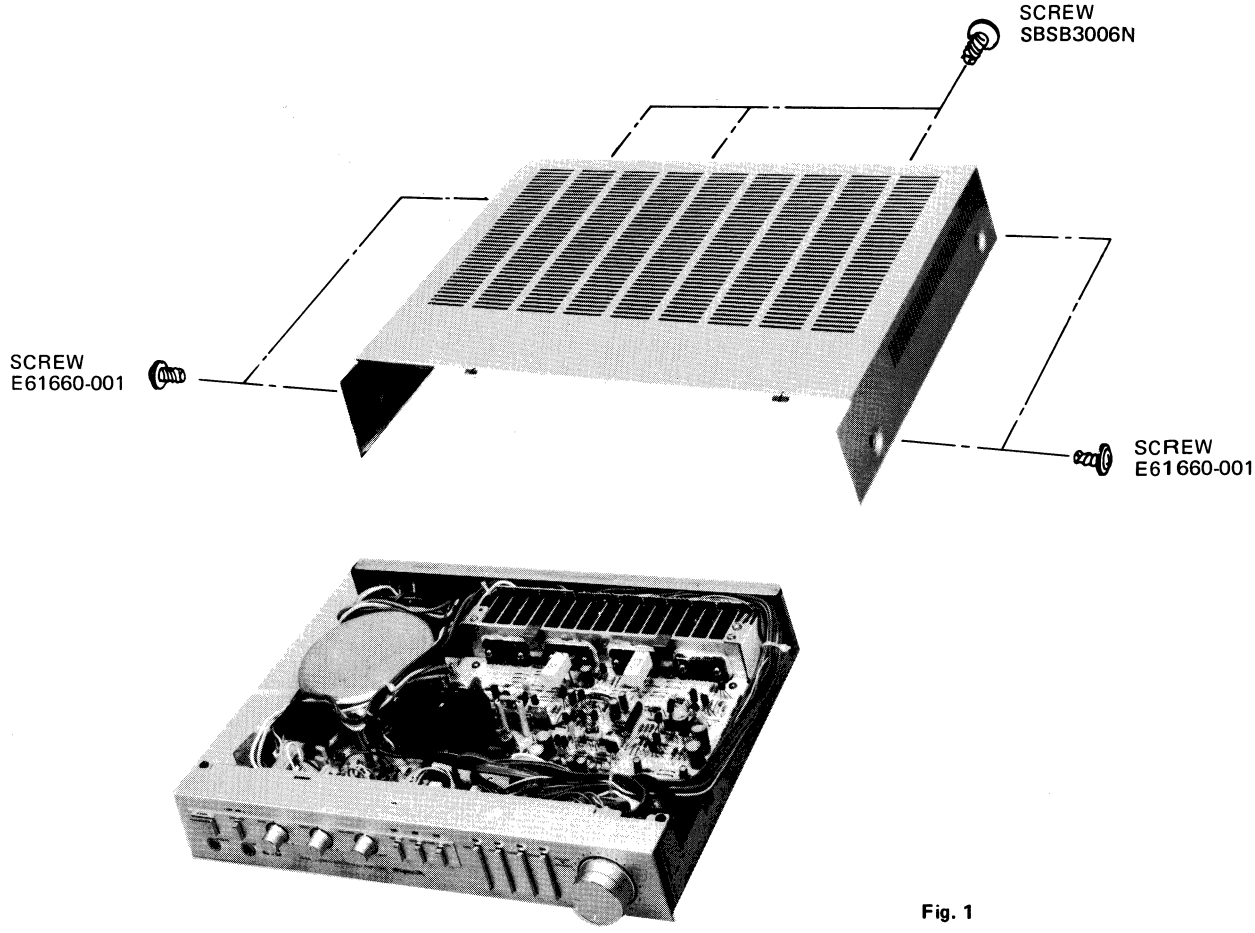


Fig. 1

3. Main Parts Location

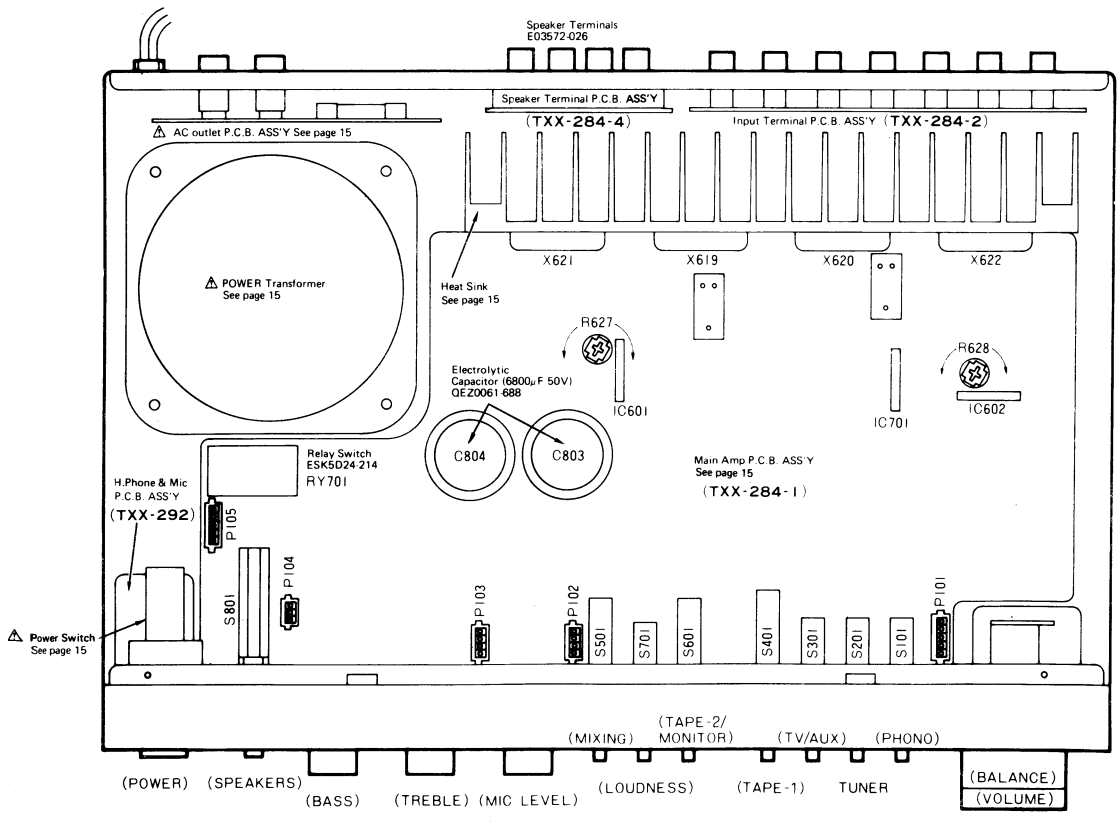


Fig. 2

4. Exploded Views and Part Numbers

4-(1) Front Panel

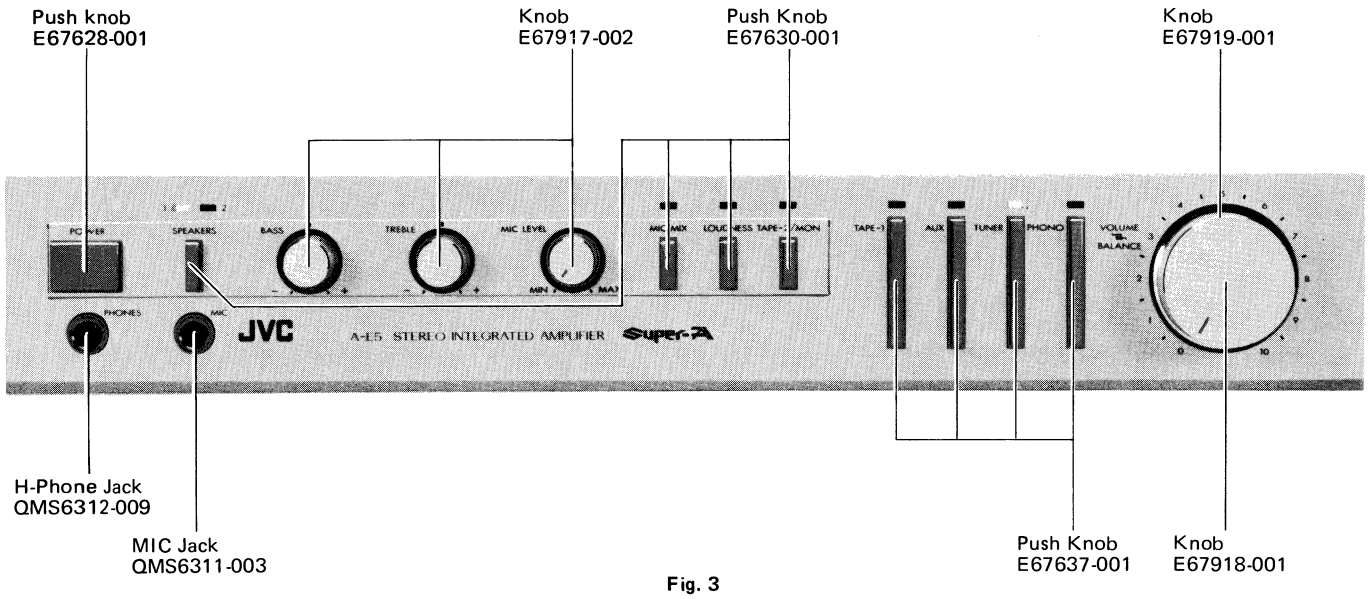


Fig. 3

4-(2) Rear Panel

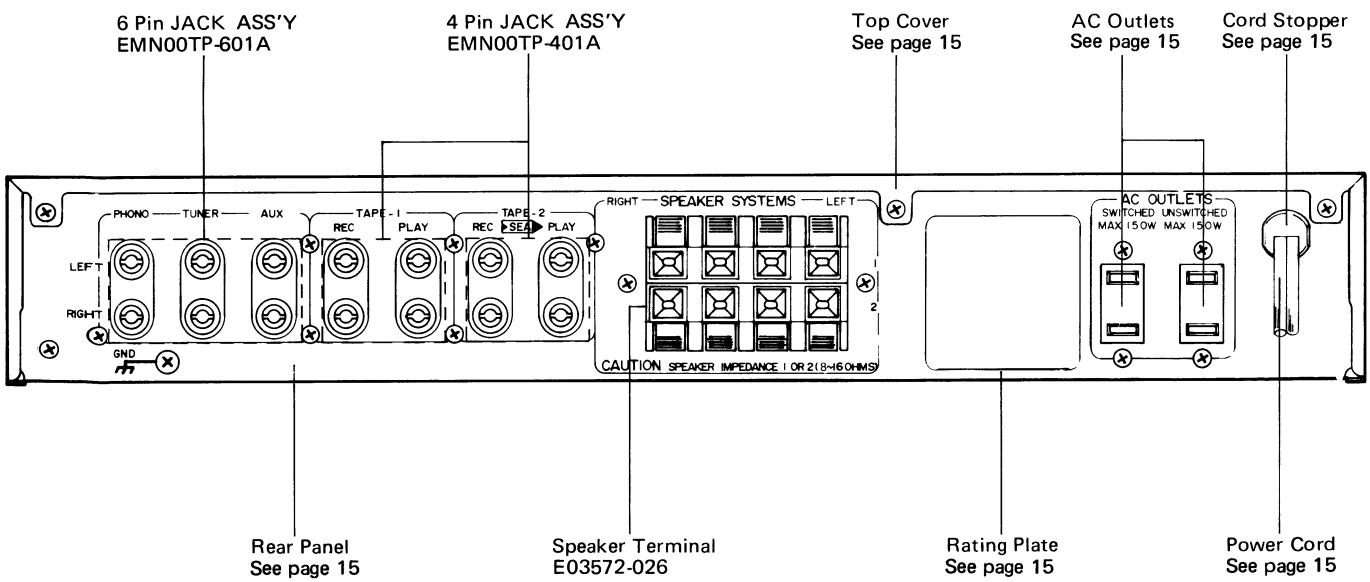
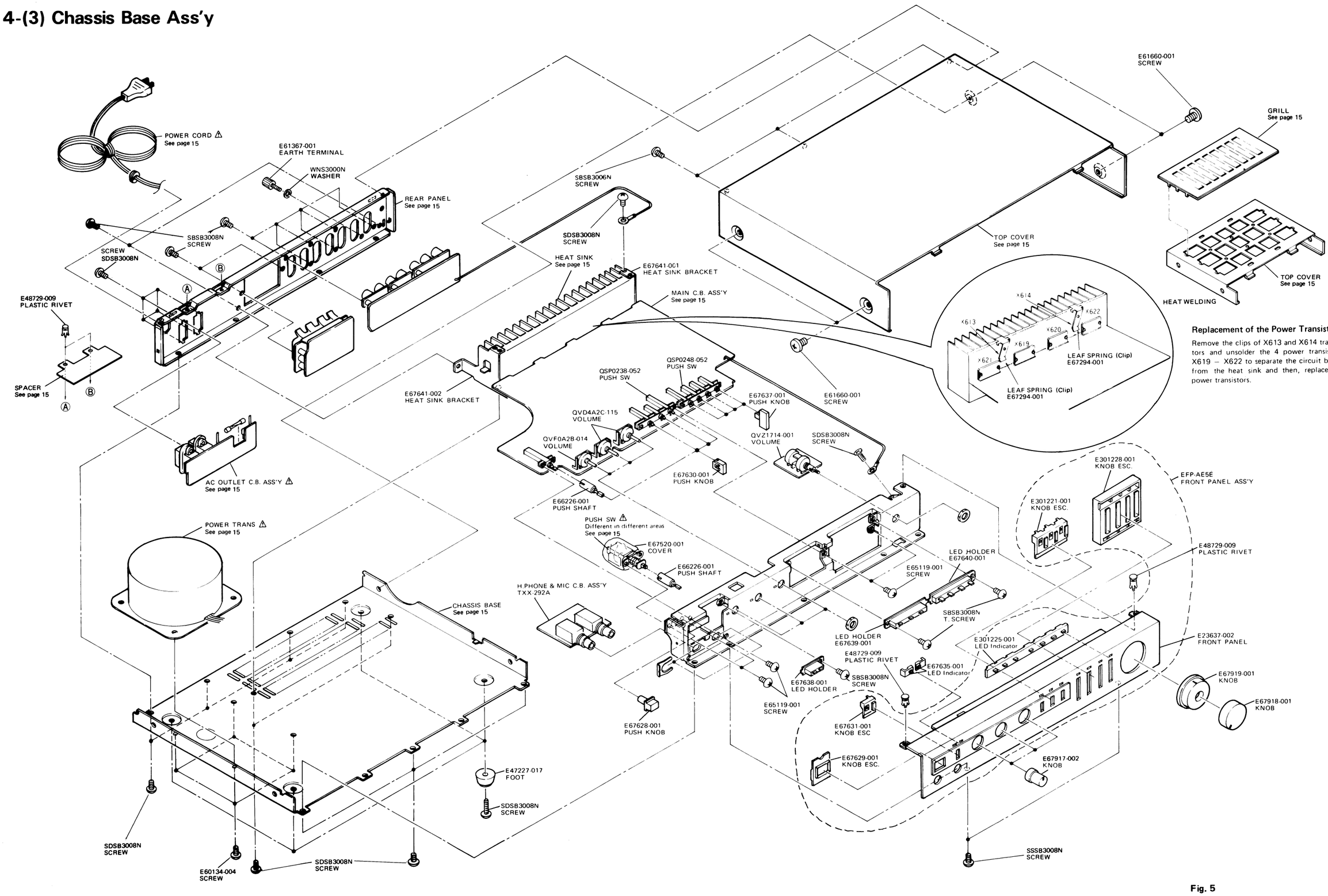


Fig. 4

4-(3) Chassis Base Ass'y



Replacement of the Power Transistors

Remove the clips of X613 and X614 transistors and unsolder the 4 power transistors X619 – X622 to separate the circuit board from the heat sink and then, replace the power transistors.

Fig. 5

NOTE: ⚠ **SAFETY PARTS**

A-E5
No. 2537

5. Block Diagram

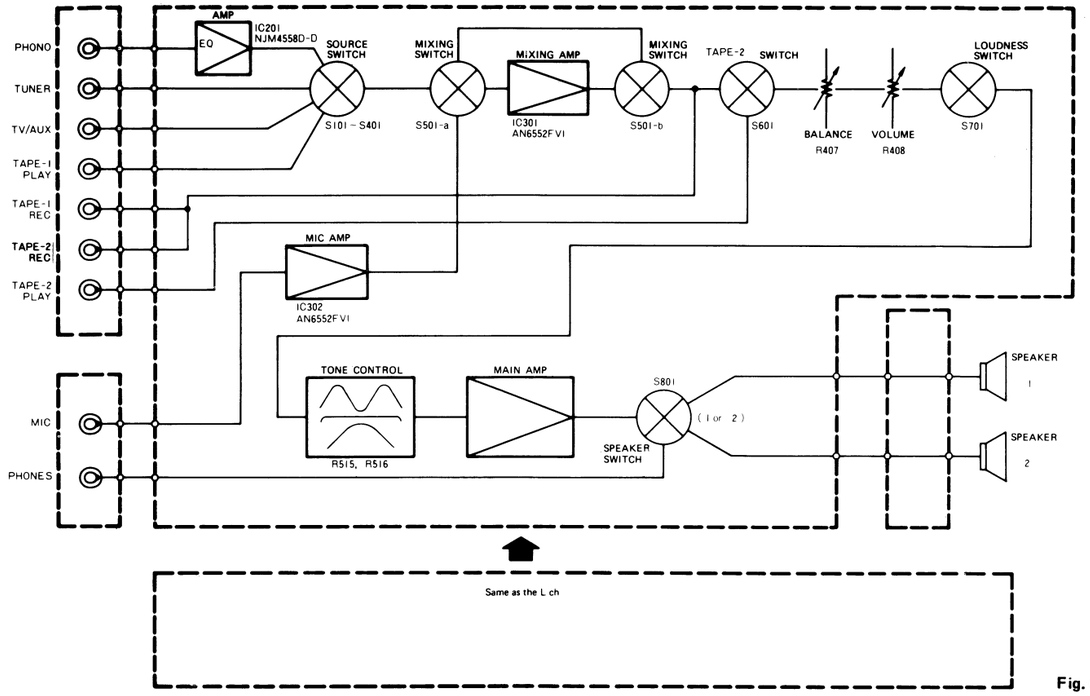


Fig. 6

6. Power Amplifier Idling Current Adjustment Procedures

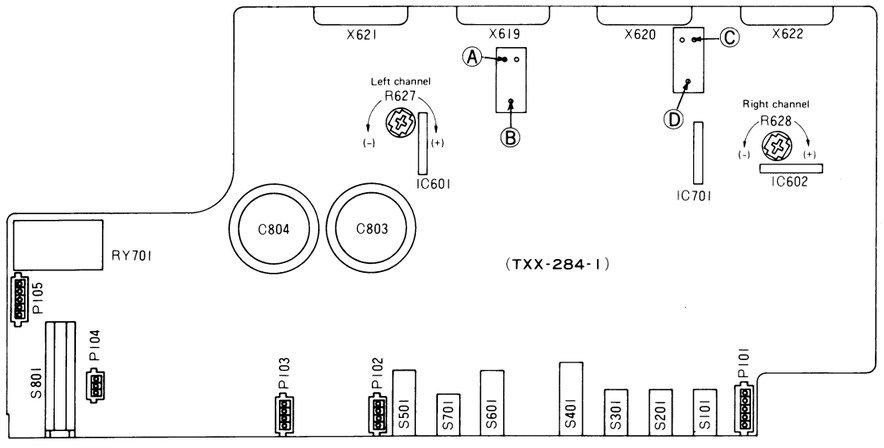


Fig. 7

1. Before turning on the power, turn the semi-fixed resistors <R627 for L channel and R628 for R channel> of the power amplifier circuit board fully counterclockwise.
2. Adjust the semi-fixed resistors (R627 and R628) so that the voltage at the following test points of the power amplifier circuit board is within a range of 1 mV – 2 mV after the power is turned on.
   L channel: Measure the voltage between test point Ⓐ (emitter of X619) and output at the test point Ⓑ .
   R channel: Measure the voltage between test point Ⓒ (emitter of X620) and output at the test point Ⓓ .
3. Readjust resistors R627 and R628 about 5 minutes after the power is turned on (the heat sink temperature must be sufficiently high) so that the voltage at the test points becomes 3 mV.
   Confirm that the voltage does not vary when the heat sink temperature increases further.
   Note: Be sure to perform the measurement with the probes and cabinet of the measuring equipment separated from the grounding terminals of A-E5 or of other measuring equipment.

7. Printed Circuit Board Ass'y and Parts List

7-(1) TXX-284B/284C Main Amp. & Other Function Split P.C. Board Ass'y

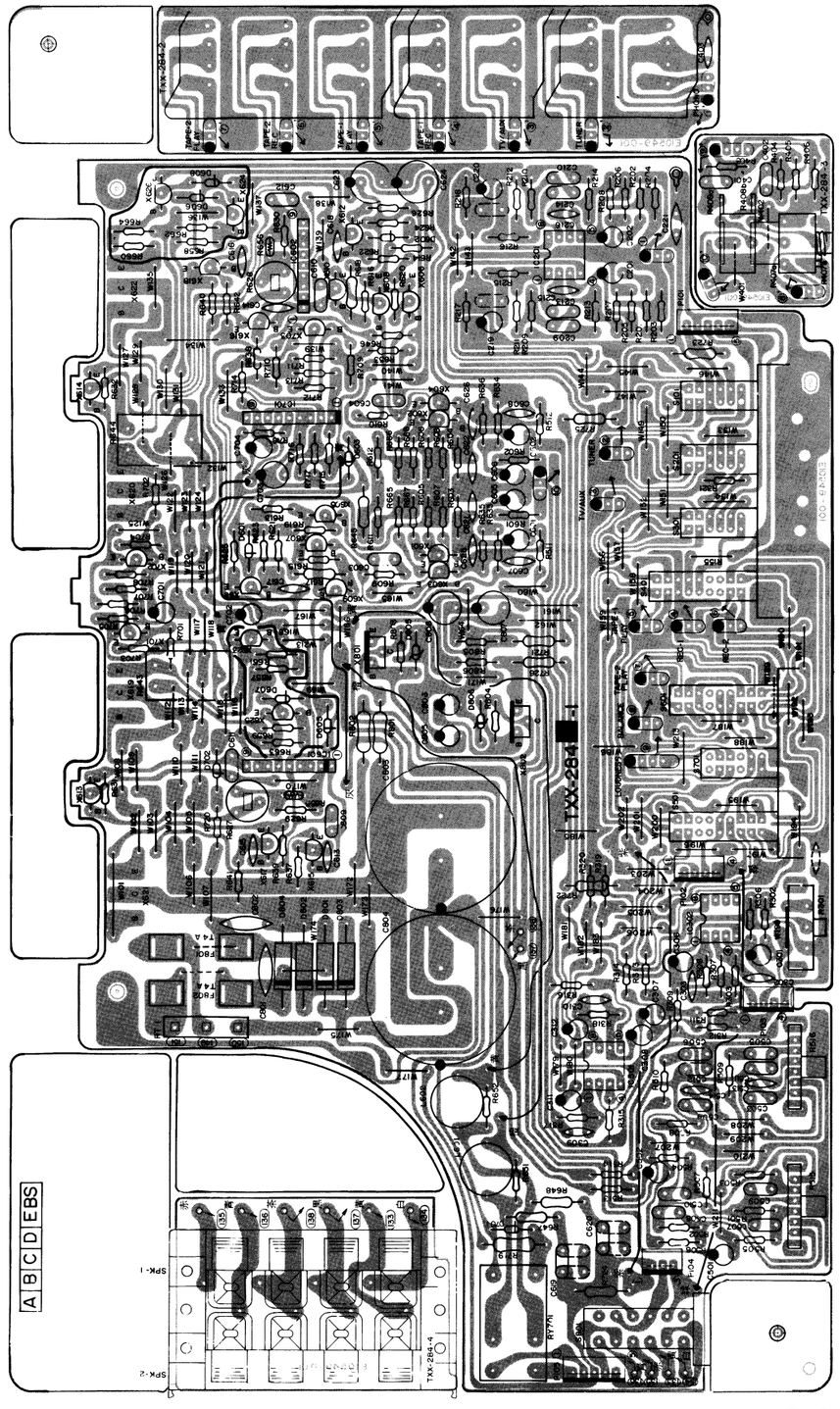


Fig. 8

7. Printed Circuit Board Ass'y and Parts List

7-(1) TXX-284B/284C Main Amp. & Other Function Split P.C. Board Ass'y

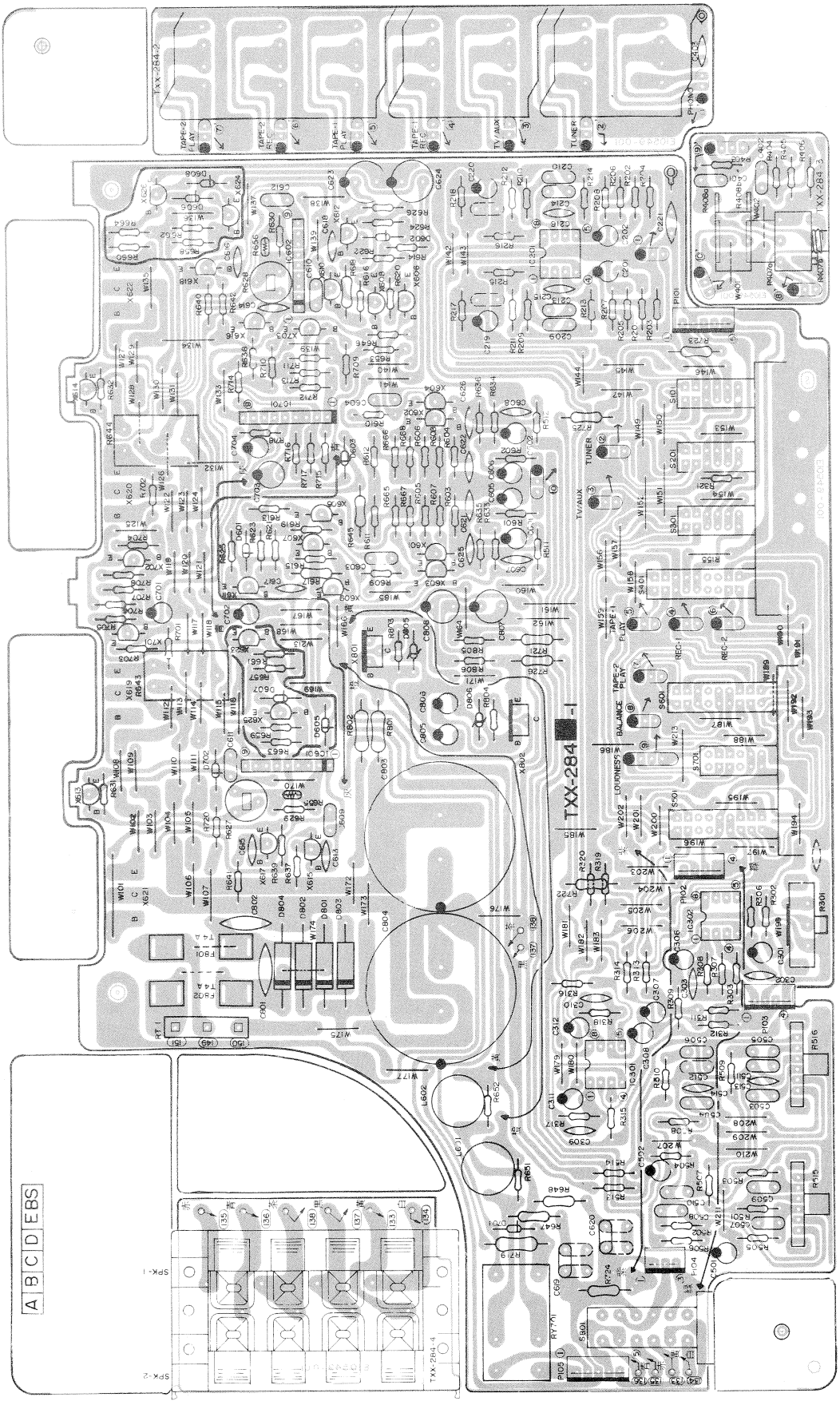


Fig. 8

Each Individual P.C. Board Location

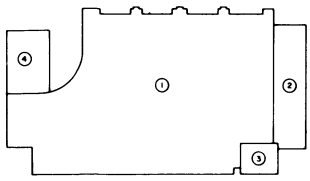


Fig. 9

① TXX-284-1 : MAIN C.B. Ass'y
② TXX-284-2 : Input Terminal C.B. Ass'y
③ TXX-284-3 : Volume C.B. Ass'y
④ TXX-284-4 : Speaker Terminal C.B. Ass'y

Note:
The Specific symbols (赤 , 黒 , 白 , . . . etc.) on a surface of above P.C. Board are actually unrelated to the repair service and are significant denotement in order to process the proper assembly of P.C. Board at the factory.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X601	2SC1775AV(F1)	0.2 W	200 MHz	Silicon	Hitachi
X602	2SC1775AV(F1)	"	"	"	"
X603	2SC1775AV(F1)	"	"	"	"
X604	2SC1775AV(F1)	"	"	"	"
X605	2SA1084(E)	0.4 W	120 MHz	"	"
X606	2SA1084(E)	"	"	"	"
X607	2SA1084(E)	"	"	"	"
X608	2SA1084(E)	"	"	"	"
X609	2SA1084(E)	"	"	"	"
X610	2SA1084(E)	"	"	"	"
X611	2SC2546(E,F)	"	90 MHz	"	"
X612	2SC2546(E,F)	"	"	"	"
X613	2SC2546(E,F)	"	"	"	"
X614	2SC2546(E,F)	"	"	"	"
X615	2SC2235(O,Y)	0.9 W	120 MHz	"	Toshiba
X616	2SC2235(O,Y)	"	"	"	"
X617	2SA965(O,Y)	"	"	"	"
X618	2SA965(O,Y)	"	"	"	"
X619	2SD845LB(R,O)	120 W	20 MHz	"	"
X620	2SD845LB(R,O)	"	"	"	"
X621	2SB755LB(R,O)	"	"	"	"
X622	2SB755LB(R,O)	"	"	"	"
X623	2SC458(C,D)	0.2 W	230 MHz	"	Hitachi
X624	2SC458(C,D)	"	"	"	"
X625	2SA1029(C,D)	"	200 MHz	"	"
X626	2SA1029(C,D)	"	"	"	"
X701	2SC2240(GR,BL)	0.3 W	100 MHz	"	Toshiba
X702	2SC2240(GR,BL)	"	"	"	"
X703	2SA970(GR,BL)	"	"	"	"
X801	2SD313V(D,E)	30 W	8 MHz	"	Sanyo
X802	2SB507V(D,E)	"	"	"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC201	NJM4558D-D		I.C.	J.R.C.
IC301	AN6552FVI		"	Matsushita
IC302	AN6552FVI		"	"
IC601	VC5022(X)		"	Toyo Dengu
IC602	VC5022(X)		"	"
IC701	TA7317P	0.5 W	"	Toshiba

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D601	1S2076-31		Silicon	Hitachi
D602	1S2076-31		"	"
D603	RD9,1EB3			N.E.C.
D605	1S2076-31		Silicon	Hitachi
D606	1S2076-31		"	"
D607	1S2076-31		"	"
D608	1S2076-31		"	"
D701	1S2076-31		"	"
D702	1S2076-31		"	"
D801	S3V20F		"	Shindengen
D802	S3V20F		"	"
D803	S3V20F		"	"
D804	S3V20F		"	"
D805	RD15EB3			N.E.C.
D806	RD15EB3			"

Coils & Transformers

Item No.	Part Number	Rating	Description
L601	E04059-1R2		
L602	E04059-1R2		

Capacitors

Item No.	Part Number	Rating		Description
C201	QET51HR-475	4.7 μF	50 V	Tantalum Electrolytic
C202	QET51HR-475	"	"	"
C209	QFM81HJ-182	1800 pF	"	Mylar
C210	QFM81HJ-182	"	"	"
C213	QFM81HJ-682	6800 pF	"	"
C214	QFM81HJ-682	"	"	"
C215	QCS21HJ-101A	100 pF	"	Ceramic
C216	QCS21HJ-101A	"	"	"
C219	QET51HR-475	4.7 μF	"	Tantalum Electrolytic
C220	QET51HR-475	"	"	"
C221	QCF21HP-103A	0.01 μF	"	Ceramic
C301	QET51HR-474	0.47 μF	"	Tantalum Electrolytic
C302	QCS21HJ-101A	100 pF	"	Ceramic
C303	QCS21HJ-331A	330 pF	"	"
C304	QCS21HJ-101A	100 pF	"	"
C306	QET51HR-474	0.47 μF	"	Tantalum Electrolytic
C307	QET51HR-225	2.2 μF	"	"
C308	QET51HR-225	"	"	"
C309	QCS21HJ-101A	100 pF	"	Ceramic
C310	QCS21HJ-101A	"	"	"
C311	QET51HR-225	2.2 μF	"	Tantalum Electrolytic
C312	QET51HR-225	"	"	"
C401	QFM81HK-183	0.018 μF	"	Mylar
C402	QFM81HK-183	"	"	"
C403	QCF21HP-103Z	0.01 μF	"	Ceramic
C501	QET51ER-106	10 μF	25 V	Tantalum Electrolytic
C502	QET51ER-106	"	"	"
C503	QFM81HK-222	2200 pF	50 V	Mylar
C504	QFM81HK-222	"	"	"
C505	QFM81HK-223	0.022 μF	"	"
C506	QFM81HK-223	"	"	"
C507	QFM81HK-333	0.033 μF	"	"
C508	QFM81HK-333	"	"	"
C509	QFM81HK-224	0.22 μF	"	"
C510	QFM81HK-224	"	"	"
C511	QFM81HK-332	3300 pF	"	"
C512	QFM81HK-332	"	"	"
C513	QCS21HJ-331A	330 pF	"	Ceramic
C514	QCS21HJ-331A	"	"	"
C601	QET51HR-225	2.2 μF	"	Tantalum Electrolytic
C602	QET51HR-225	"	"	"
C603	QFM81HK-102	1000 pF	"	Mylar
C604	QFM81HK-102	"	"	"
C605	QET51CR-476	47 μF	16 V	Tantalum Electrolytic
C606	QET51CR-476	"	"	"
C607	QCS21HJ-100A	10 pF	50 V	Ceramic
C608	QCS21HJ-100A	"	"	"
C609	QFM81HK-332	3300 pF	"	Mylar
C610	QFM81HK-332	"	"	"
C611	QFM81HK-103	0.01 μF	"	"
C612	QFM81HK-103	"	"	"
C613	QCS21HJ-560A	56 pF	"	Ceramic
C614	QCS21HJ-560A	"	"	"
C615	QCS21HJ-560	"	"	"
C616	QCS21HJ-560	"	"	"

Capacitors

Item No.	Part Number	Rating		Description
C617	QCS21HJ-470	47 pF	"	"
C618	QCS21HJ-470	"	"	"
C619	QFM81HK-473	0.047 μF	"	Mylar
C620	QFM81HK-473	"	"	"
C621	QCS21HJ-121A	120 pF	"	Ceramic
C622	QCS21HJ-121A	"	"	"
C623	QET51HR-107H	100 μF	"	Tantalum Electrolytic
C624	QET51HR-107H	"	"	"
C625	QCS21HJ-101A	100 pF	"	Ceramic
C626	QCS21HJ-101A	"	"	"
C701	QET51HR-226	22 μF	"	Tantalum Electrolytic
C702	QET51HR-105	1 μF	"	"
C703	QET51AR-107	100 μF	10 V	"
C704	QET51CR-226	22 μF	16 V	"
C801	QCE22HP-103A	0.01 μF	500 V	Ceramic U.S.A.,
C802	QCE22HP-103A	"	"	" Canada, U.S. Military Market & Other Countries
C801	QFZ0075-104H	0.1 μF	400 V	Mylar Europe,
C802	QFZ0075-104H	"	"	" Australia & U.K.
C803	QEZ0061-688	6800 μF	50 V	
C804	QEZ0061-688	"	"	
C805	QET51ER-107	100 μF	25 V	Tantalum Electrolytic
C806	QET51ER-107	"	"	"
C807	QET51ER-227	220 μF	"	"
C808	QET51ER-227	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R201	QRD141J-222SY	2.2 kΩ	1/4 W	Carbon
R202	QRD141J-222SY	"	"	"
R203	QRD141J-224SY	220 kΩ	"	"
R204	QRD141J-224SY	"	"	"
R205	QRD141J-623SY	62 kΩ	"	"
R206	QRD141J-623SY	"	"	"
R207	QRD141J-751SY	750 Ω	"	"
R208	QRD141J-751SY	"	"	"
R209	QRD141J-393SY	39 kΩ	"	"
R210	QRD141J-393SY	"	"	"
R211	QRD141J-474SY	470 kΩ	"	"
R212	QRD141J-474SY	"	"	"
R213	QRD141J-301SY	300 Ω	"	"
R214	QRD141J-301SY	"	"	"
R215	QRD141J-471SY	470 Ω	"	"
R216	QRD141J-471SY	"	"	"
R217	QRD141J-224SY	220 kΩ	"	"
R218	QRD141J-224SY	"	"	"
R301	QVF0A2B-014	10 kΩ	1 W	
R302	QRD141J-102SY	1 kΩ	1/4 W	Carbon
R303	QRD141J-561SY	560 Ω	"	"
R306	QRD141J-103SY	10 kΩ	"	"
R307	QRD141J-271SY	270 Ω	"	"
R308	QRD141J-124SY	120 kΩ	"	"
R309	QRD141J-104SY	100 kΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R311	QRD141J-563SY	56 kΩ	"	"
R312	QRD141J-563SY	"	"	"
R313	QRD141J-563SY	"	"	"
R314	QRD141J-563SY	"	"	"
R315	QRD141J-222SY	2.2 kΩ	"	"
R316	QRD141J-222SY	"	"	"
R317	QRD141J-563SY	56 kΩ	"	"
R318	QRD141J-563SY	"	"	"
R319	QRD141J-104SY	100 kΩ	"	"
R320	QRD141J-104SY	"	"	"
R321	QRD141J-563SY	56 kΩ	"	"
R403	QRD141J-683SY	68 kΩ	"	"
R404	QRD141J-683SY	"	"	"
R405	QRD141J-223SY	22 kΩ	"	"
R406	QRD141J-223SY	"	"	"
R407	QVZ1714-001	250 kΩ		
R501	QRD141J-823SY	82 kΩ	1/4 W	Carbon
R502	QRD141J-823SY	"	"	"
R503	QRD141J-182SY	1.8 kΩ	"	"
R504	QRD141J-182SY	"	"	"
R505	QRD141J-123SY	12 kΩ	"	"
R506	QRD141J-123SY	"	"	"
R507	QRD141J-182SY	1.8 kΩ	"	"
R508	QRD141J-182SY	"	"	"
R509	QRD141J-561SY	560 Ω	"	"
R510	QRD141J-561SY	"	"	"
R511	QRD141J-562SY	5.6 kΩ	"	"
R512	QRD141J-562SY	"	"	"
R513	QRD141J-472SY	4.7 kΩ	"	"
R514	QRD141J-472SY	"	"	"
R515	QVD4A2C-115	100 kΩ	2 W	
R516	QVD4A2C-115	"	"	
R601	QRD141J-222SY	2.2 kΩ	1/4 W	Carbon
R602	QRD141J-222SY	2.2 kΩ	"	"
R603	QRD141J-104SY	100 kΩ	"	"
R604	QRD141J-104SY	"	"	"
R605	QRD141J-272SY	2.7 kΩ	"	"
R606	QRD141J-272SY	"	"	"
R607	QRD141J-272SY	"	"	"
R608	QRD141J-272SY	"	"	"
R609	QRD141J-101SY	100 Ω	"	"
R610	QRD141J-101SY	"	"	"
R611	QRD141J-472SY	4.7 kΩ	"	"
R612	QRD141J-472SY	"	"	"
R613	QRD149J-151S	150 Ω	"	"
R614	QRD149J-151S	"	"	"
R615	QRD141J-391SY	390 Ω	"	"
R616	QRD141J-391SY	"	"	"
R617	QRD129J-203S	20 kΩ	1/2 W	"
R618	QRD129J-203S	"	"	"
R619	QRD141J-392SY	3.9 kΩ	1/4 W	"
R620	QRD141J-392SY	"	"	"
R621	QRD141J-242SY	2.4 kΩ	"	"
R622	QRD141J-242SY	"	"	"
R623	QRD149J-181S	180 Ω	"	"
R624	QRD149J-181S	"	"	"
R625	QRD149J-181S	"	"	"
R626	QRD149J-181S	"	"	"
R627	QVP4A0B-471	470 Ω		
R628	QVP4A0B-471	"		
R629	QRD141J-331SY	330 Ω	1/4 W	Carbon
R630	QRD141J-331SY	"	"	"
R631	QRD141J-182SY	1.8 kΩ	"	"
R632	QRD141J-182SY	"	"	"
R633	QRD141J-104SY	100 kΩ	"	"
R634	QRD141J-104SY	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R635	QRD141J-821SY	820 Ω	"	"
R636	QRD141J-821SY	"	"	"
R637	QRD149J-100S	10 Ω	"	"
R638	QRD149J-100S	"	"	"
R639	QRD149J-271S	270 Ω	"	"
R640	QRD149J-271S	"	"	"
R641	QRD149J-100S	10 Ω	"	"
R642	QRD149J-100S	"	"	"
R643	ERF032K-R22	0.22 Ω	3 W	Uninflammable
R644	ERF032K-R22	"	"	"
R645	QRD129J-472S	4.7 kΩ	1/2 W	Carbon
R646	QRD149J-101S	100 Ω	1/4 W	"
R647	QRD129J-100	10 Ω	1/2 W	"
R648	QRD129J-100	"	"	"
R651	QRD149J-4R7S	4.7 Ω	1/4 W	"
R652	QRD149J-4R7S	"	"	"
R653	QRD149J-101S	100 Ω	"	"
R655	SDT35	8 pF		
R656	SDT35	"		
R657	QRD141J-102SY	1 kΩ	1/4 W	Carbon
R658	QRD141J-102SY	"	"	"
R659	QRD141J-102SY	"	"	"
R660	QRD141J-102SY	"	"	"
R661	QRD141J-472SY	4.7 kΩ	"	"
R662	QRD141J-472SY	"	"	"
R663	QRD141J-472SY	"	"	"
R664	QRD141J-472SY	"	"	"
R665	QRD149J-100SY	10 Ω	"	"
R666	QRD149J-100SY	"	"	"
R667	QRD149J-100SY	"	"	"
R668	QRD149J-100SY	"	"	"
R701	QRD141J-122SY	1.2 kΩ	"	"
R702	QRD141J-122SY	"	"	"
R703	QRD141J-681SY	680 Ω	"	"
R704	QRD141J-681SY	"	"	"
R705	QRD141J-104SY	100 kΩ	"	"
R706	QRD141J-104SY	"	"	"
R707	QRD141J-123SY	12 kΩ	"	"
R708	QRD141J-123SY	"	"	"
R709	QRD141J-103SY	10 kΩ	"	"
R710	QRD141J-332SY	3.3 kΩ	"	"
R711	QRD141J-183SY	18 kΩ	"	"
R712	QRD141J-563SY	56 kΩ	"	"
R713	QRD141J-683SY	68 kΩ	"	"
R714	QRD141J-154SY	150 kΩ	"	"
R715	QRD141J-393SY	39 kΩ	"	"
R716	QRD141J-682SY	6.8 kΩ	"	"
R717	QRD141J-104SY	100 kΩ	"	"
R718	QRD141J-153SY	15 kΩ	"	"
R719	QRG017J-471S	470 Ω	1 W	Oxide Metal Film
R720	QRD149J-103S	10 kΩ	1/4 W	Carbon
R721	QRD129J-121S	120 Ω	1/2 W	"
R722	QRD129J-391S	390 Ω	"	"
R723	QRD129J-151S	150 Ω	"	"
R725	QRD129J-151	"	"	"
R726	QRD129J-151	"	"	"
R727	QRD129J-471S	470 Ω	"	"
R801	QRG016J-271	270 Ω	1 W	Oxide Metal Film
R802	QRG026J-271	270 Ω	2 W	"
R803	QRD149J-332S	3.3 kΩ	1/4 W	Carbon
R804	QRD149J-332S	"	"	"
R805	QRD149J-101S	100 Ω	"	"
R806	QRD149J-101S	"	"	"

Others

Item No.	Part Number	Rating	Description
J201	EMN00TP-401A		
J202	EMN00TP-401A		
J203	EMN00TP-601A		
P101	QMV5005-005		
P102	QMV5005-004		
P103	QMV5005-004		
P104	QMV5005-003		
P105	QMV5005-005		
S101	QSP0248-051		
S501	QSP0219-056		
S601	QSP0219-056		
S701	QSP0219-056		
RY701	ESK5D24-214		
	EWR23C-20NN	Flat Shield Wire	
	EWR23C-25NN	"	
	EWR23C-35NN	"	
	EWR23C-40NN	"	
	EWR23C-45NN	"	
	EWR23C-50NN	"	
	EWR34A-30NN	Flat Wire	
	EWT011-028	Termi. Wire	
	E03572-026	SPK. Terminal	
	E10549-101	Circuit Board	
	E301227-001	Heat Sink	Europe, Australia & U.K.
	E301227-002	"	U.S.A., Canada, U.S. Military Market & Other Countries
	E48965-002	C. Clip	
	E65654-001	Spacer	
	E67294-001	Leaf Spring	
	E67641-001	Heat Sink BKT	
	E67641-002	"	
	SBSB3008Z	Screw	
	SBSE3012Z	"	
RT1	E67764-103	R. Tab	

7-(2) TXX-292B Terminal & Other Function Split P.C. Board Ass'y

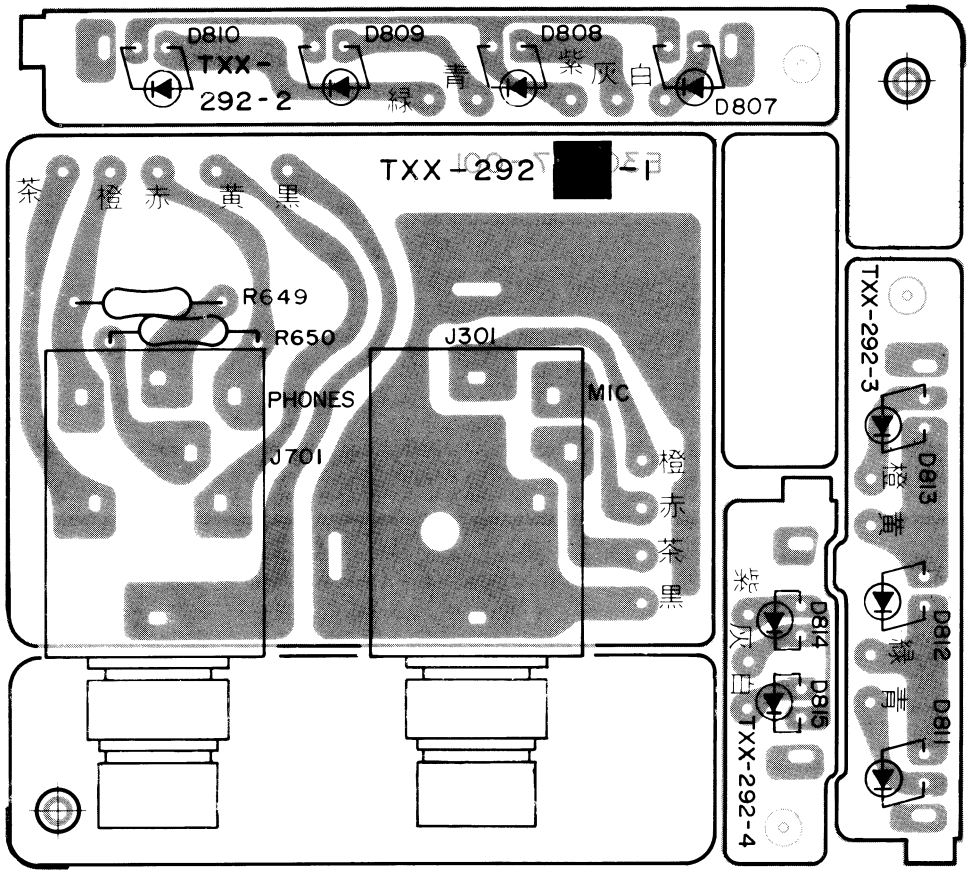


Fig. 10

Each Individual P.C. Board Location

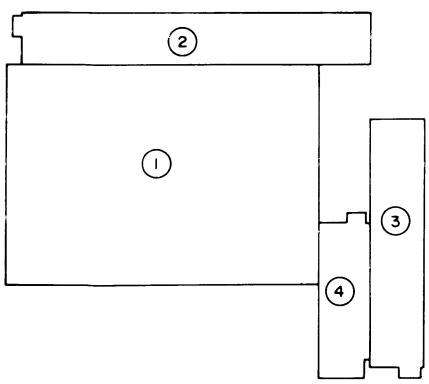


Fig. 11

① TXX-292-1 : Headphone & Mic C.B. Ass'y
② TXX-292-2 : Source Indicator C.B. Ass'y
③ TXX 292-3 : Select Indicator C.B. Ass'y
④ TXX-292-4 : Speaker Indicator C.B. Ass'y

Note:
The Specific symbols (赤 , 黒 , 白 , . . . etc.) on a surface of above P.C. Board are actually unrelated to the repair service and are significant denotement in order to process the proper assembly of P.C. Board at the factory.

Diodes

Item No.	Part Number	Rating	Description
			Maker
D807	GL-9NG923	L.E.D.	Sharp
D808	GL-9NG923	"	"
D809	GL-9NG923	"	"
D810	GL-9NG923	"	"
D811	GL-9HY23	"	"
D812	GL-9NG923	"	"
D813	GL-9HY23	"	"
D814	GL-9NG923	"	"
D815	GL-9NG923	"	"

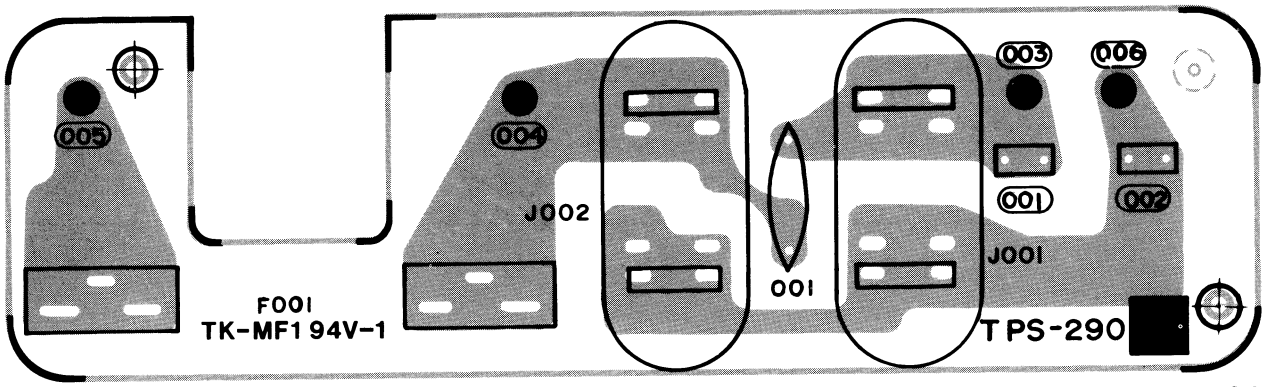
Resistors

Item No.	Part Number	Rating		Description
R649	QRD129J-221	220 Ω	1/2 W	Carbon
R650	QRD129J-221	"	"	"

Others

Item No.	Part Number	Rating	Description
J301	QMS6311-003	Mic Jack	
J701	QMS6312-009	H. Phone Jack	
	E301247-101	Circuit Board	
	E67638-002	LED Holder	
	E67639-002	"	
	E67640-002	"	
LED	EWS014-041	SKT Wire Ass'y	
LED	EWS014-042	"	
SPK	EWS015-036	"	
SP. SW	EWS013-054	"	
H. PH	EWS015-037	"	

7-(3) TPS-290B AC Fuse P.C. Board Ass'y



U.S.A. & Canada

Item No.	Part Number	Rating	Description
	E03675-004	Fuse Clip	
	E43727-001	Tab	
	E65508-002	"	
	E67788-001	Circuit Board	
C001	QCZ9014-103A	0.01 μF	Ceramic
J001	QMC0231-003	AC Socket	

7-(4) TPS-291A AC P.C. Board Ass'y

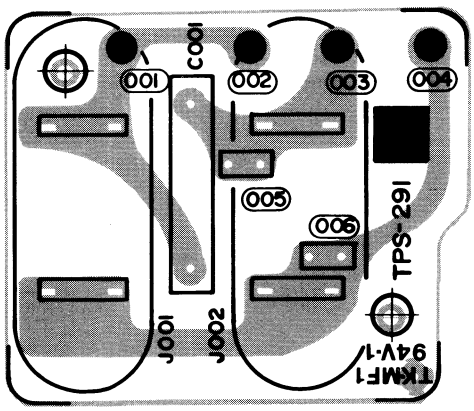


Fig. 13

U.S. Military Market & Other Countries

Item No.	Part Number	Rating	Description
	E43727-001	Tab	
	E65508-002	"	
	E67789-001	Circuit Board	
C001	QFZ9010-103	0.01 μF	Film
J001	QMC0231-003	AC Socket	

7-(5) TPS-292A/292BBS AC P.C. Board Ass'y

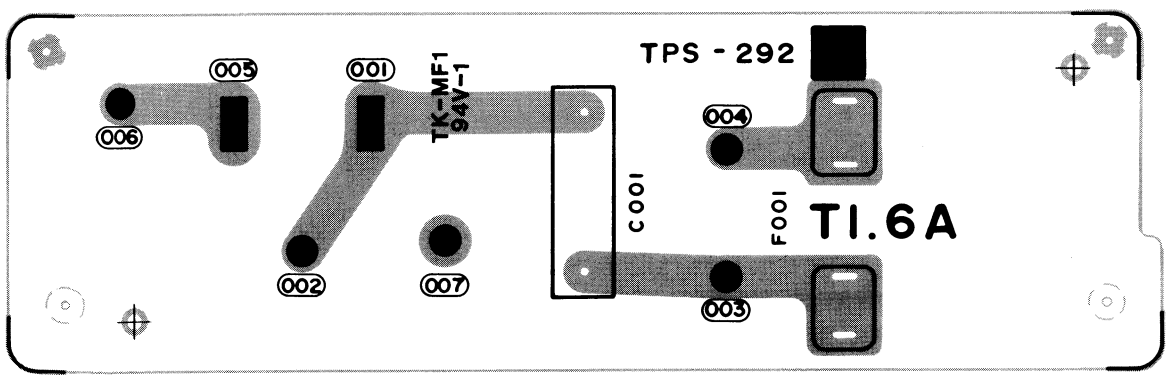


Fig. 14

Europe, Australia & U.K.

Item No.	Part Number	Rating	Description
	E43727-001	Tab	
	E65508-002	"	
	E67790-001	Circuit Board	Europe & Australia
	E67790-001BS	"	U.K.
C001	QFZ9010-103	0.01 μF	Film Europe & Australia
C001	QFZ9010-103BS	"	" U.K.

8. Packing Materials and Part Numbers

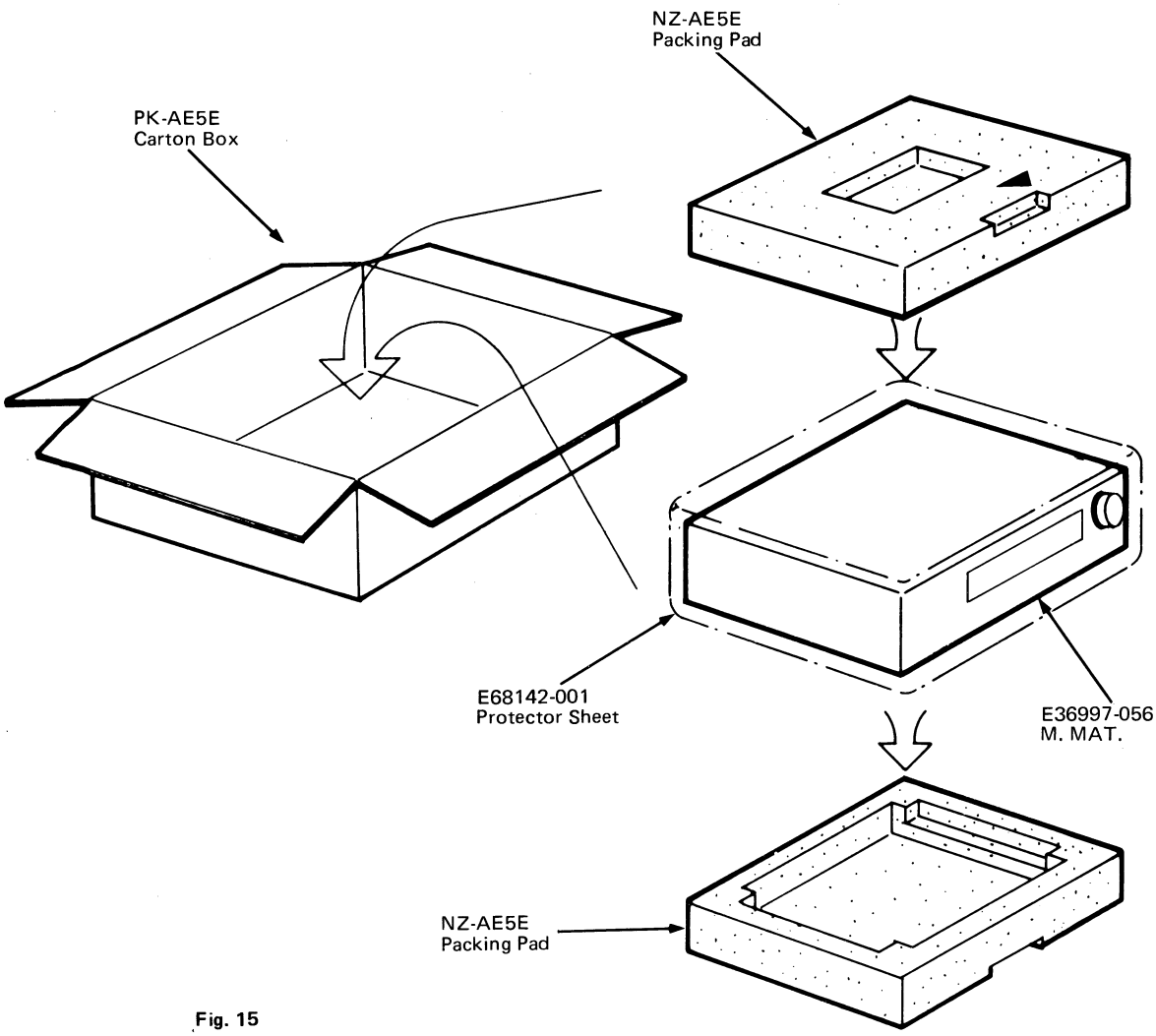


Fig. 15

9. Accessories List

Item No.	Part Number	Description	Q'ty
1	E30580-864A	Instruction Book (for U.K., E30580-864ABS)	1
2	See below	Warranty Card	1
3	E41202-2	Envelope for Instruction Book & Warranty Card	1
4	BT20042	"Does it Better" (for U.S.A. only)	1
5	BT20044B	Safety Instruction Sheet (for U.S.A. only)	1
6	See page 15	Fuses (for U.S. Military Market & Other Countries)	1
7	E64204-073	Envelope for Fuses (for U.S. Military Market & Other Countries)	1
8	See page 15	Fuse Label	1
9	E64216-002	Caution Tag for Power Cord (for U.S. Military Market)	1

Warranty Card

U.S.A.	Canada	U.K.	Europe	Australia	U.S. Military Market
BT20032B	BT20025C	BT20013C	–	BT20029B	BT20032B

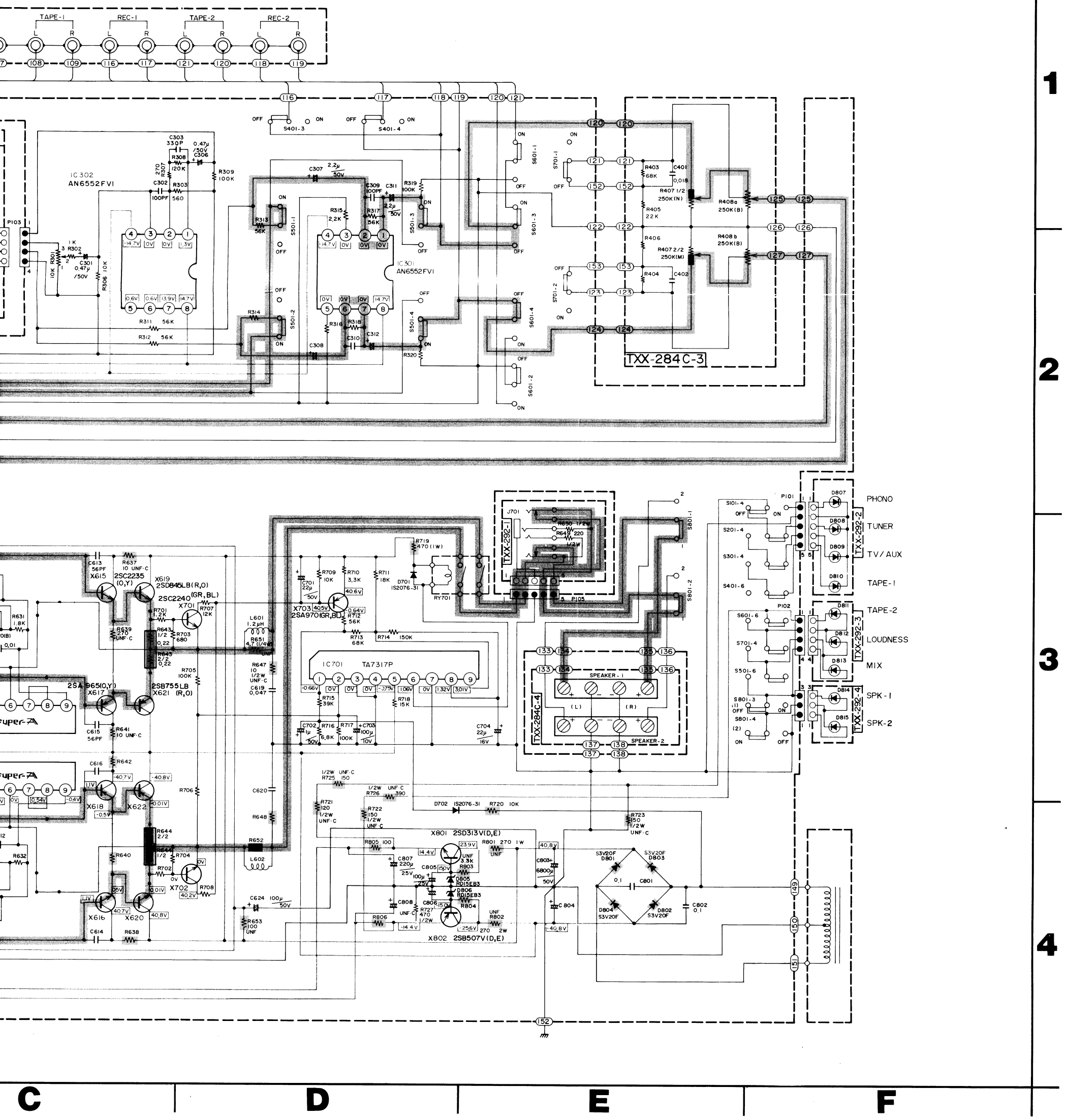
10. A-E5 Schematic Diagram

Printed Circuit Board Ass'y Locations

P.C. Board Ass'y	Description	Page
TXX-284B/284C	Main Amp. & Other Function Split P.C. Board Ass'y	6
TXX-292B	Terminal & Other Function Split P.C. Board Ass'y	10
TPS-290B	AC Fuse P.C. Board Ass'y	11
TPS-291A	AC P.C. Board Ass'y	11
TPS-292A/292BBS	AC P.C. Board Ass'y	11

Notes:

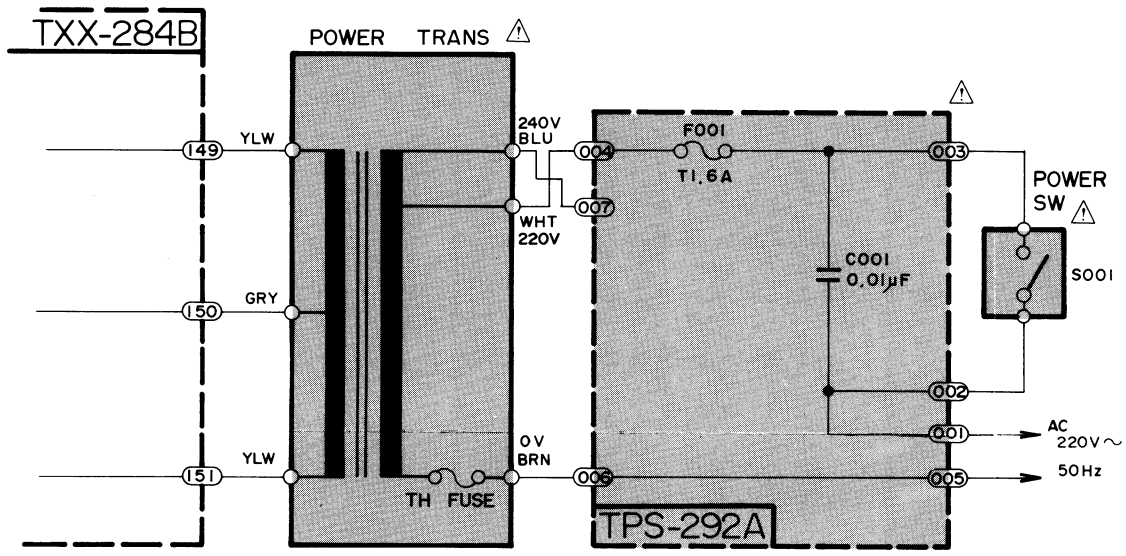
1. Voltage values in ⬭ are positive.
2. Voltage values in ⬭ are negative.
3. —— indicates positive B power supply.
4. —— indicates negative B power supply.
5. ▒▒ indicates signal path.
6. When replacing the parts in the darkened area (▒▒) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
7. Parts in red
8. This is the s
   The design
   notice.



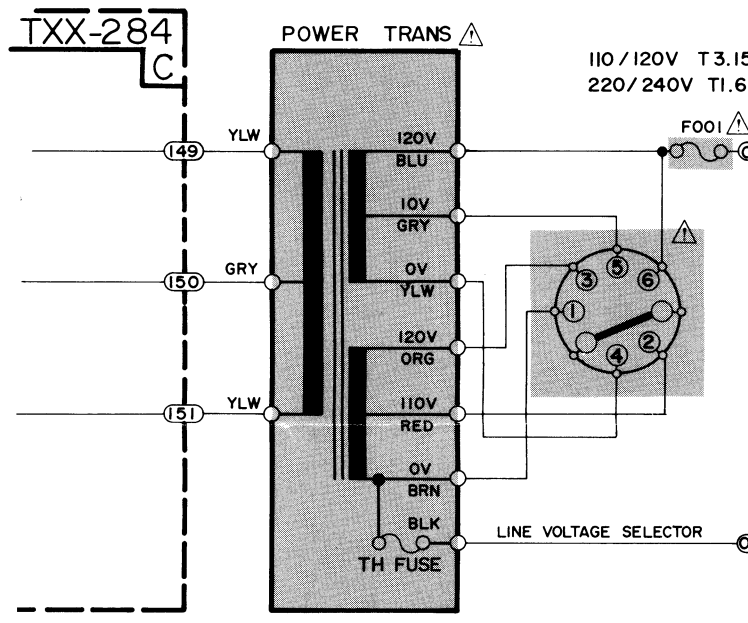
are positive.
are negative.
e B power supply.
ve B power supply.
path.
rts in the darkened area (▨) and
, be sure to use the designated parts

7. Parts in red indicate transistors or ICs.
8. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

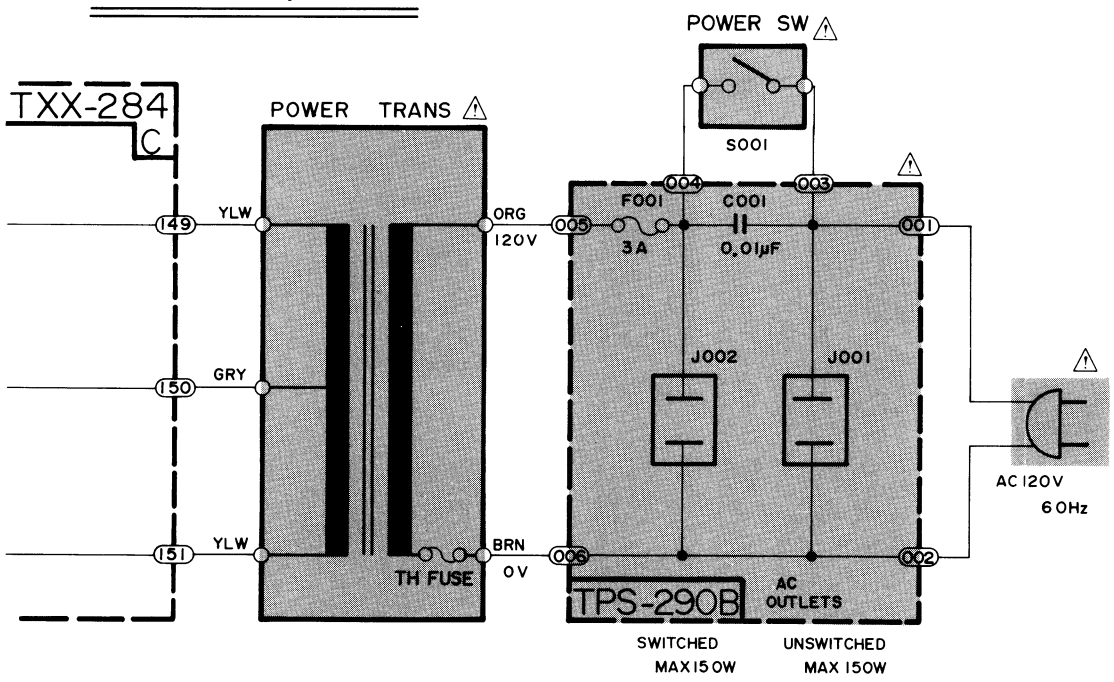
FOR EUROPE AC220V~50Hz



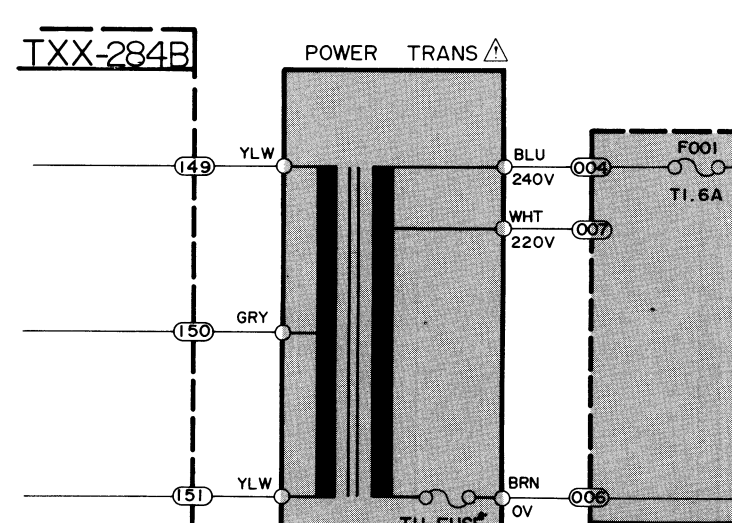
FOR OTHER COUNTRIES AC110V /

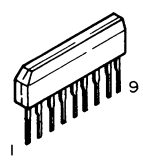


FOR UL , CSA AC120V 60Hz



FOR U.K. AND AUSTRALIA





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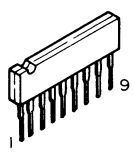
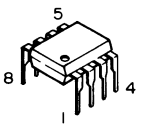
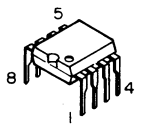
TA7317P



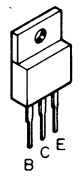
IC601, 602
VC5022(X)



IC301, 302
AN6552FVI



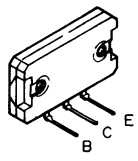
IC201
NJM4558D-D



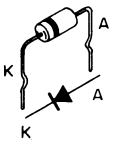
X801
2SD313V
X802
2SB507V

X615, 616
2SC2235
X617, 618
2SA965

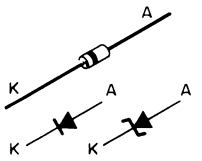
X601~604
2SC1775FV
X605~610
2SA1084



X619, 620
2SD845LB
X621, 622
2SB755LB



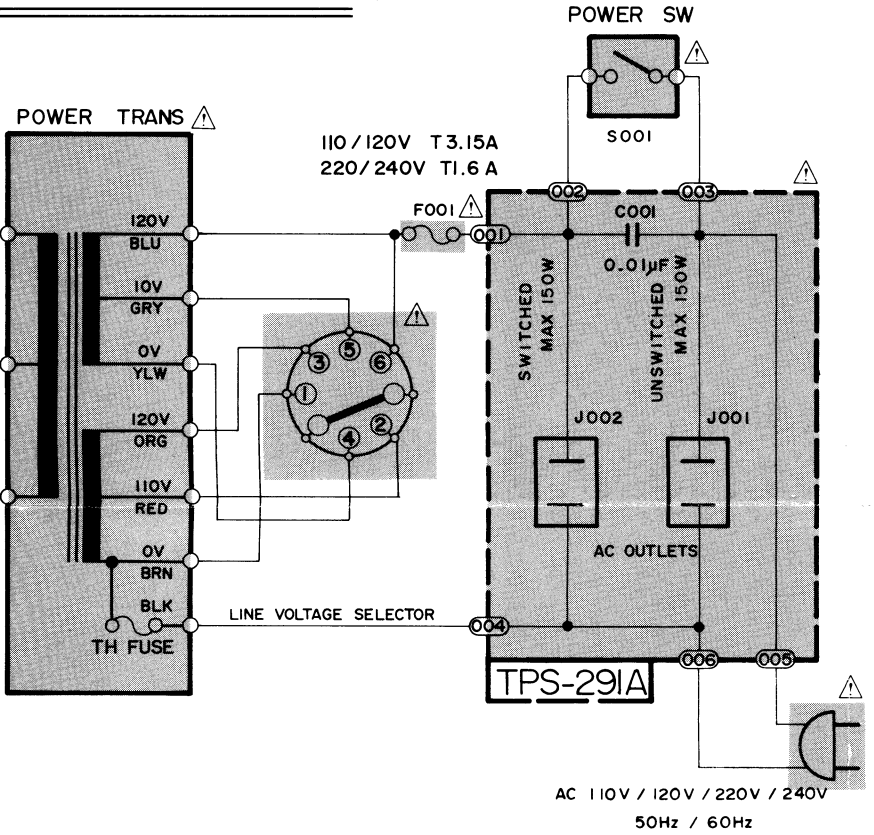
D801~804
S3V20F



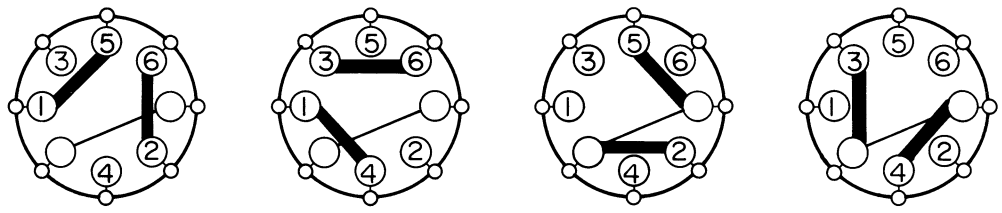
D601
RD9.1EB3
D805, 806
RD15EB3

THER COUNTRIES

AC110V / 120V / 220V / 240V

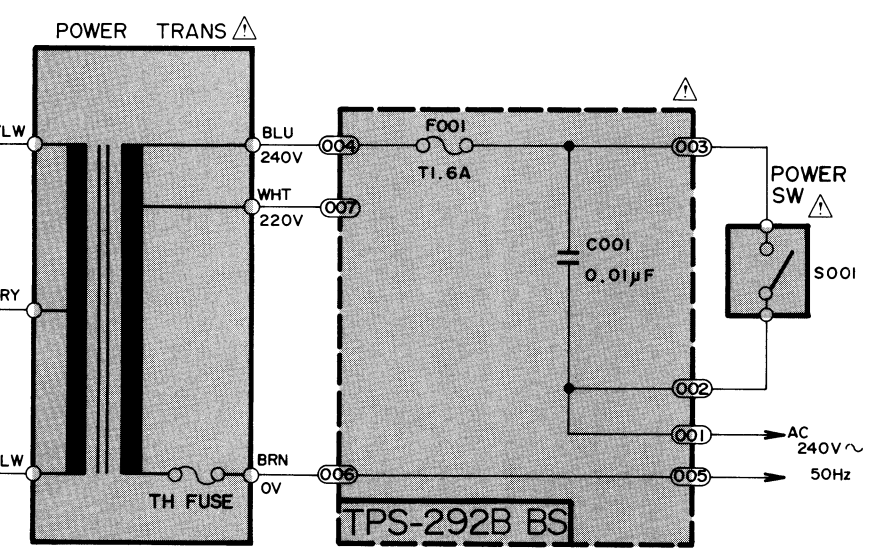


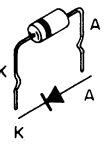
VOLTAGE SELECTOR CONNECTION



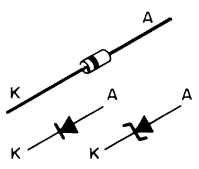
K. AND AUSTRALIA

AC240V ~ 50Hz

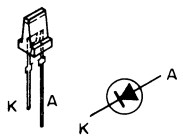




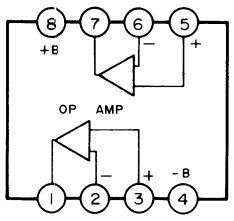
D801~804
S3V20F



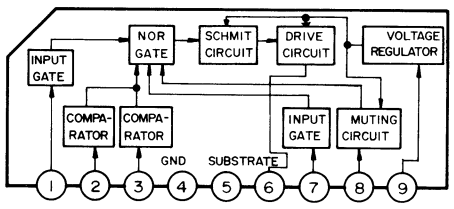
D601
RD9.1EB3
D805, 806
RD15EB3



D807~810, 812, 814, 815
9NG923
D811, 813
9HY23



IC201
NJM4558D~D
IC301, 302
AN6552FV1



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TA7317P

11. Parts List with Specified Numbers for Designated Areas

Page	Item No.	Description	U.S. Military Market & Other Countries	U.S.A.	Canada	Australia	Europe	U.K.
2		Power Trans.	E03617-019F	E03617-19B	E03617-19D	E03617-019G	E03617-019G	E03617-019GBS
2		Power Switch	QSP1110-308	QSP1110-308	QSP1110-308	QSP1110-305	QSP1110-305	QSP1110-305BS
2	*1	Main C.B.	TXX-284C	TXX-284C	TXX-284C	TXX-284B	TXX-284B	TXX-284B
3	4-(2)	Rear Panel	E23635-003	E23635-002	E23635-002	E23635-005	E23635-004	E23635-005
	*2	A.C. C.B.	TPS-291A	TPS-290B	TPS-290B	TPS-292A	TPS-292A	TPS-292BBS
3	4-(2)	Power Cord	QMP7600-250	QMP1200-200	QMP1200-200	QMP2560-244	QMP3900-200	QMP9017-008BS
3	4-(2)	Cord Stopper	QHS3876-162	QHS3876-162	QHS3876-162	QHS3876-162	QHS3876-162	QHS3876-162BS
		Fuse (Primary)	QMF51A2-3R15S or QMF51A2-1R6L	QMF61U1-3R0	QMF61U1-3R0	QMF51A2-1R6L	QMF51A2-1R6L	QMF51A2-1R6LBS
		Fuse (Secondary)	–	–	–	QMF51A2-4R0S	QMF51A2-4R0S	QMF51A2-4R0SBS
		Top Cover	E23639-002	E23639-002	E23639-002	E23639-002	E23639-005	E23639-005
		Fuse (Within)	QMF51A2-1R6L or QMF51A2-3R15S	–	–	–	–	–
12		Inst. Book	E30580-864A	E30580-864A	E30580-864A	E30580-864A	E30580-864A	E30580-864ABS
12		Warranty Card	BT20032B	BT20032B	BT20025C	BT20029B	–	BT20013C
		Warning Label	–	–	–	–	–	E60965-001BS
		Fuse Socket	QMG0301-003	–	–	–	–	–
		Voltage Selector	QSR0085-001U	–	–	–	–	–
12		Siemens Plug	E04056	–	–	–	–	–
		Fuse Label	E67412-T1R6 or E67412-T3R15	E61380-025	E61380-025	–	–	–
		UL Label	–	QZL1001-001	–	–	–	–
		CSA Label	–	–	E45858-002	–	–	–
		O. Marking Label	–	–	–	–	–	E49267-002
		C801, C802	QFZ0075-104H	QCE22HP-103	QCE22HP-103	QFZ0075-104H	QFZ0075-104H	QFZ0075-104H
	*1	Heat Sink	E301227-002	E301227-002	E301227-002	E301227-001	E301227-001	E301227-001
		Contact Clip	–	–	–	E48965-002	E48965-002	E48965-002
		Spacer (AC out)	E67751-001	E67751-001	E67751-001	–	–	–
		A.C. C.B.	E67789-001	E67788-001	E67788-001	E67790-001	E67790-001	E67790-001BS
	*2	1P A.C. Socket	QMC0231-003	QMC0231-003	QMC0231-003	–	–	–
		Fuse Clip	–	E03675-004	E03675-004	–	–	–
		C001	QFZ9010-103	QCZ9014-103A	QCZ9014-103A	QFZ9010-103	QFZ9010-103	QFZ9010-103BS
4	4-(3)	Chassis Base	E23625-002	E23625-002	E23625-002	E23625-003	E23625-003	E23625-003
4	4-(3)	Grill	–	–	–	–	E23741-001	E23741-001

Power Specifications

Area	Line Voltage & Frequency	Power Consumption
U.S.A. & CANADA	AC 120 V, 60 Hz	165 W, 205 VA
EUROPE	AC 220 V~, 50 Hz	285 W
U.K. & AUSTRALIA	AC 240 V~, 50 Hz	285 W
OTHER AREAS	AC110/120/220/240 V~ Selectable, 50/60 Hz	285 W